Privacy & Security Standards Workgroup
<mark>Draft Transcript</mark>
April 6, 2011

Presentation

Judy Sparrow – Office of the National Coordinator – Executive Director
Thank you operator. Good morning, everybody, and welcome to the Privacy and Security Standards
Workgroup. This is a federal advisory call, so there will be opportunity at the end of the call for the public
to make comments. Just a reminder for workgroup members to please identify yourselves when speaking
and let me do a quick roll call. Dixie Baker.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
I'm here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Walter Suarez.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
I'm here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Anne Castro. Steve Findlay. Rob Wilmont is on for David McCallie.

Rob Wilmont – Cerner Corporation
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Wes Rischel. Sharon Terry couldn't make it. .Jeff Jonas. Chris …. Lisa Gallagher.

Lisa Gallagher – HIMSS – Senior Direct of Privacy & Security
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Adam Greene. Mike Davis. John Moehrke.

John Moehrke – Interoperability & Security, GE – Principal Engineer
Present.

Judy Sparrow – Office of the National Coordinator – Executive Director
Ted Larson. Kevin Stein. John Blair

John Blair – Tacanic IPA – President & CEO
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
And then we have some presenters on, Shanks Kande.

Shanks Kande – Social Security Administration – IT Specialist
I'm here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Nitin Jain.

Nitin Jain – Decision Analytics – EXL
I'm here.

Judy Sparrow – Office of the National Coordinator – Executive Director
And Don Bechtel.

Okay, I'll turn it over to Dixie Baker.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Alright, thank you very much, Judy. Thank you all for dialing in to our meeting today. This is the meeting where we continue our discussion of standards considerations for enterprise level provider directories. Can you advance the slide, please? Next slide, please. These are the old slides. Sorry, everybody, I got them this morning, seven minutes before the meeting and I just updated the slide. It's not a big deal. We do have three speakers today and I'd like to thank you all for participating in our meeting.

At our Health Information Technology Standards Committee meeting, last week, we presented the results, our recommendations for standards for digital certificates. Although the task was to present recommendations for standards for digital certificates, along with those recommendations we presented recommendations in two other areas. Our recommendations for requirements and evaluation criteria for digital certificates were accepted as written. For those of you who may not be familiar with the new process that we're using, the HIT Standards Committee recommends requirements that a standard must meet and then the standards development work is done by the Standards & Interoperability Framework team at the ONC. Then, the standards are developed or identified there comes back to the Standards Committee and we do an evaluation of it against the certification criteria. So those were all accepted as written.

In addition, in the course of our conversations about digital certificates, we came upon two issues that we thought really required further consideration by the ONC and the HIT Policy Committee. Both of them have to do with the certificate authorities that issue digital certificates for use in exchanges using the Direct Project Standard. The Direct Project Standard, as you may know, is a secure email based standards for enabling providers to do a direct push from one to another. And the concerns were really putting into place some policy around who those certificate authorities could be, what are the minimal standards that they need to meet in order to issue a certificate for those types of exchanges.

So the first recommendation was a recommendation made to the Office of the National Coordinator directly. That has to do with the fact that there are many exchanges, treatment payment out there related, or health care operations related exchanges that occur between providers in the private sector and government entities. And most specifically, exchanges of health records between a private provider and the Veterans Health Administration; an exchange of health information between a private provider and a military treatment facility and the Department of Defense; and exchanges between private providers and the Centers for Medicare and Medicaid Services, as well as the Social Security Administration.

So, understanding that these exchanges necessarily will take place, we wanted to determine how feasible it would be to have the certificate authorities for the Direct Project cross certified and change mutually trusted by the federal certificate authority itself. So that's done through a bridging, cross certification, each digitally signing the other's certificate type process. So our recommendation to ONC was that they investigate what it would take for a certificate authority that was providing certificates to the private sector to become bridge or cross-certified with the federal bridge certificate authority.

The only discussion that came up was the wording of what we task or ask the ONC to investigate had not included the word "benefits" and we added that to it. Of course we intended to include that all along, but we explicitly added it in the slides that I sent to the chairs of the Standards Committee.

Then the third recommendation we made is for the HIT Policy Committee to policy around what is the minimum level of validation of trustworthiness for a certificate authority that issues certificates for use in direct exchanges. That's really a policy issue and not a standards issue, so we sent that question over to the Policy Committee. I also added the background slides that were presented as kind of an introductory level setting before we asked them this ultimate question. The introductory slides just laid out what the issues were.

So these, all three, were approved by the Standards Committee and are now moving forward.

Next slide.

Moving forward to the next standard that we need to recommend requirements for is the Entity Level Provider Directory, the ELPD. In other words, the name of a healthcare organization rather than the individual clinicians within that organization. Our focus is on these four areas: the standards for the structure's content; the submission to a national registry system; query response between electronic health records and ELPD's; and the certification criteria for EHR's to certify that they're capable of querying an enterprise level Provider Directory. The National Registry system is a concept that has been proposed and approved by the HIT Policy Committee, and that's kind of the next mix … Our current focus is really on the EHR, the requirements for an EHR to be able to query an enterprise level Provider Directory. The reason why that's our initial focus is that we're hoping that we can get a standard and a certification criterion, at least one, into the Meaningful Use Stage II requirements for certification.

As we pursued the standards for ELPD, we found ourselves often getting into conversations that really were focused more, either focused more on individual level Provider Directory, or where some kind of meshing between entity and individual provider level, as often happens in our industry. And so we asked the Standards Committee whether we could just address ELPD's and ILPD's concurrently and then present our recommendations for both at the same time. That was approved at the Standards Committee meeting as well.

Next slide.

Walter, do you want to introduce our speakers?

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
Just for a moment, this is Don Bechtel. Just wanted to let you know I joined the call.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Thank you.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Thank you, Dixie. So today we have invited a few presenters to cover some of the items that we thought would be important in order to move forward with these recommendations on Provider Directories. We had hoped to have a larger group of presentations, but time and conflicts, we were only able to really include three of our presenters today. So we're going to start with, if you move forward one slide, we asked each of the presenters to try to cover a few important points in light of our priority coming out of the Health IT Policy Committee and Health IT Standards Committee last week, so we asked, first of all, if they could cover a quick overview of some of the work that they've been doing with respect to provider directories, in particular their standards that are being used in those Provider Directory efforts, or if the standards are being developed.

Then we asked them to cover this series of questions related to the capabilities and standards for EHR. So, what would be those capabilities and standards that the project or the system or the efforts that are being done used to enable an EHR to query a Provider Directory? So this is pointing exactly to the priority that ONC asked us to focus on. What information do EHR's need to retrieve from providers in order to enable the provider organization to exchange health information with other provider entities? What are the technical standards, both message and content, that exist today? What would be recommended for enabling those types of EHR to provide a directory query? What gaps exist today in those standards?

Next slide.

Then the last few questions: What certification criteria would be suggested for EHR's to be able to query a Provider Directory that would be expected for EHR's to meet as criteria for certification? What standards are needed to define the structure and content of provider directories? This one is sort of a second tier priority of the four major areas that we're intending to focus with respect to provider directories. And are there any such standards for the structure and content available today? And then what centers are needed to support the submission, publishing basically, of directory content to a national entity level Provider Directory and whether there are any standards available today for such a publishing function? And any other points important to consider with respect to standards for Provider Directory. So those were the questions we asked them to try to address or we through their remarks, on presentations.

The three presenters that we have today, we're very fortunate to have. First of all, a presentation from the Social Security Administration, along with integrating the healthcare enterprise IHE on the experience that Social Security Administration has had with provider directories and the work that is being done by IHE in developing the IHE Provider Directory profile. Then we will hear a presentation or some remarks from X12 and HL7 joint effort around Provider Directory through the work of the SEO Charter Organization called the SEO Charter Organization, which I'm sure Don Bechtel will talk a little bit about what they are.

…I'm going to turn it to our first presenters from Social Security and IHE. So, Shanks, would you mind taking over?

Shanks Kande – Social Security Administration – IT Specialist
Thank you. Before I start, as you can see the agenda, the Social Security presentation is two-fold. One is looking at the Social Security experience with the Provider Directory and Nitin Jain is going to give us an overview of his …profile.

Just a logistical issue before I start. Nitin, he thought it was like we were to attend around noon today, so he's traveling, he's driving. So Nitin, where are you?

Nitin Jain – Decision Analytics – EXL
I'm online. I'm just walking in, so you can get started with your overview.

Shanks Kande – Social Security Administration – IT Specialist
Yes, I wanted to check with you. I've got it.

So as I said, this is the two-fold. Nitin and I will be briefing the workgroup on the Social Security Administration experience, give you an overview of Healthcare Provider Directory IHE profile.

During the briefing, we plan to …(moving mic) and SSA …and some lessons learned from developing a Provider Directory and why we chose IHE, why did we take that path. Then later, Nitin will give us an overview of the IHE Healthcare Provider Directory profile and his presentation will cover the information that is being managed inside the directory and entity level provider information that you could store. And then some of the standards developed by the profile and why we chose those standards.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
 Just one quick comment for the people that are ..of the system, should we be going through some of the slides now or ask if the person that controls the screen can upload the SSA presentation?

Shanks Kande – Social Security Administration – IT Specialist
Unfortunately, we cannot have the facility to control those from the firewall here, so if somebody from your team can load the presentation that I sent, then I can prompt you when to change the slides.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
It is being done as we speak.

Shanks Kande – Social Security Administration – IT Specialist
Okay, let's go to the second slide, which says Social Security Administration Use of Provider Directory. What we want to talk on this, the Use of Provider Directory, is we want to say that the Social Security Administration is a consumer of the Provider Directory. We use the Provider Directory to support our disability determination process. So we do not use EHR at our facility; we are not a care provider, but we have a software application that we developed in the recent time which is called MEGA HIT. The MEGA HIT stands for Medical Evidenced Gathering and Analysis Through Health IT. So the acronym MEGA HIT is we gather the medical evidence and do the analysis on the data that we cover through health IT process. So this MEGA HIT application is the one that queries …

So the resulting provider information from Provider Directory is then used to retrieve their electronic medical records through the Nationwide Health Information Network in support of the disability determination process. The use of this Provider Directory is to operate over the Nationwide Health Information Network.

Currently, SSA uses an internally developed Provider Directory … We have a homegrown provider directory that may contain duplicates, aliases, misspellings, incomplete and out of date provider information due to manual entry process. This is data created through a manual entry process. So this often are reserves in a large number of provider entries that require intervention to resolve ambiguity. So that's the state of the situation we have.

I listed some of the provider information that is useful to the Social Security Administration. Identifying the correct provider, it's a relationship to the Health Information Exchange and the medical records location, fax number, email address or an electronic health record endpoint is very important to us in enabling a direct communication to the provider. Through this provider lookup we intend to reduce the network traffic and improve the quality and timeliness of disability determination process at SSA.

Next slide, please.

The next slide talks about some of our agencies have first to build a Provider Directory. We developed a Provider Directory in 2010, the profile, and we …proof of concept …of that. So as the first federal agency to participate in the exchange of medical information through a nationwide health information network, we

took up an effort in the year 2009 to define business and technical specifications related to Provider Directory.

So the work expanded in scope when the agency shared its work on Provider Directory with IHE entity. And then we took a lead role in authoring a standards-based interoperable profile called Health Care Provider Directory.   During a year long process of the profile development, we collaborated with several entities such as system vendors, provider organizations, subject matter experts and IHE team members to harmonize directory requirements and develop interoperability standards.

Further, to validate the usefulness and implementation aspect of this profile, the agency executed a proof of concept project. This work hasn't gone into production yet, but we have achieved some significant technical milestones as far as validating the usefulness of this profile is concerned. Earlier this year, in January at IHE Connectathon, we came across multiple implementations of this profile from leading vendors such as Epic, Siemens, Tiani-Cisco and Medicity. These systems successfully tested beta scenarios among each of us providing interoperability of this profile.

We then demonstrated the HPD profile in interoperability showcase at HIMSS in February of this year. There were two use cases that we demonstrated. Obviously, the Authorized Release of Information to a Trusted Entity – how the Provider Directory is used to take a medical SOS, medical facility that is listed on SSA disability application and how we use Provider Directory to look up and get a relationship of the medical facility with health information exchange, such as …and how we get the …electronic endpoint and then through a nation where it has information network send a request and receive the medical information.

We also demonstrated another use case called Urology Referral with a Lab Specimen Report. This is not a use case, but we wanted to demonstrate that the Provider Directory, the profile that we authored is beyond SSA's use; it can be used for other purposes. So this Urology Referral, this use case features a patient record from his primary care physician to a urologist to investigate an above average PSA test. The scenario demonstrates the use of Provider Directory to look up a specialist and create a patient referral.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
I have a question. Your Provider Directory profile is for individual level provider directories, I sense, right?

Shanks Kande – Social Security Administration – IT Specialist
The Provider Directory profile, later on Nitin will talk about like it coerces both entity level as well as individual, both.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Okay, the one that you're talking about that you've implemented for SSA, is it entity level or is it individual level?

Shanks Kande – Social Security Administration – IT Specialist
Right now the proof of concept, which is not in production yet, so we have not implemented that, we have completed the proof of concept, but when we do go into production it will cover both entity as well as individual.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Thank you.

Nitin Jain – Decision Analytics – EXL

And just wanted to add on, on the demonstrations, any kind of test data that we use for the proof of concept covered both individual and organization providers.

Shanks Kande – Social Security Administration – IT Specialist
The next slide, we put together some lessons learned from the profile development. The first lesson is the standards did not pose any significant technical and implementation issues. The implementation forces was validated, the process validated …choosing LDAP standards. There are many commercial and Open Source products and tools available to develop a DSML version 2 LDAP0-based directory… So these tools simplified implementation.

Then we highlighted some of the operational challenges and content related to the provider information maintenance. Like the data management issues related to handling of provider information such as how to validate the provider feed for information; how to maintain currency of data; who can have the rights to add, update, delete, etc., are complex. In the current version, the profile proposes that such issues shall be managed by back office procedures that are currently beyond the scope of this profile. So this profile was just in the interoperability aspect of it, not introducing some of the challenges that this talked about.

The next one is like ambiguous results during the provider identification. When a directory maintains data from multiple sources that can cause some overlapping of information and duplicate reserves, how do you manage the ambiguity? There needs to be a process that can help resolve these ambiguities associated with searches. So we did address that.

And some of the policies like develop policies to allow for rapid development of federated provider directories that can communicate provider information at the state or the national level. The policies such as whether the data in directories is deemed public information, who are the authoritative sources, how frequence these directories need to be updated, what are the legal implications if the data is not correct that may result in fraud and abuse. Those items were not addressed as part of this profile development.

We also recommend the need to develop some governance policies, the policies that …provider information source and the provider information directory. So when the directory receives information from the source, then how do you handle the request such as add updates, delete transactions. So we felt a need that those governance should be established.

Next slide, please.

John Blair – Tacanic IPA – President & CEO
One question. What were your sources for the data?

Shanks Kande – Social Security Administration – IT Specialist
For the projects that we have …SSA, we were using the data from the Health Information Exchange.

John Blair – Tacanic IPA – President & CEO
And what was their source?

Shanks Kande – Social Security Administration – IT Specialist
I believe their source was they were looking into their system and extracting the members that are part of that Health Information Exchange. I believe I have-- Can you add anything where will be their source…?

M

Yes, I think that's pretty much they have the membership information with them and they maintain the data. I wouldn't call it a more structured manner, but something that we receive in more like …basis that we use to cast into a more structured …feed.

John Blair – Tacanic IPA – President & CEO
Were those primarily hospitals, where they integrated delivery networks?

M
Yes, it had a combination of all kinds; hospitals through their IBN's to individual providers. It also has some membership columns, what providers are practicing and in which kind of hospital. And it has more inpatient, outpatient. We have information on the labs, also. So there was a variety of providers.

John Blair – Tacanic IPA – President & CEO
Thank you.

Shanks Kande – Social Security Administration – IT Specialist
So the next slide is why IHE? Why did we chose IHE? As we all know, IHE is an initiative that is started by healthcare professionals and the industry to improve the way the computer systems in healthcare share information. Their focus is mainly on healthcare industry. And then the IHE Profile is the one that solves interoperability issues. The profile describes the solution to a specific integration problems and documents the system roles, standards and transactions for the implementers and the technology vendors to develop solutions and products that address this problem. So we approached IHE and we took the guidance of IHE and developed this profile.

The profile of IHE could have multiple stages: the development stages; trial implementation stage, that we are in; and once the trial implementation is successfully completed, then the profile will go into the final stage for the industry to adopt it as a standard and frequently they review those profiles and if it's not necessary, then they retire or deprecate it. So we are in the trial implementation of this profile.

The next slide, I will hand over to Nitin Jain to walk us through it to give us an overview of the HPD Profile and talk about some of this technology and standards used for development of this profile. Nitin.

Nitin Jain – Decision Analytics – EXL
Thank you, Shanks. So we are on slide, I don't have the number in front of me, but it's titled: IHE HPD Profile Overview.

So as the name suggests, a Healthcare Provider Directory, I want to clarify one thing, it's not a specific directory. It is standard specification that supports the management of provider information through its standardizing interface. By management, we mean both the permission and the access capability, to be able to feed and create information through the standardizing interface. And as you see on the diagram, this profile has a bunch of Actors. We qualify in IT terms these are Provider Information Source, Provider Information Consumer and the Provider Information Directory. So each Actor has its own role and if we look at the source, the source primary is responsible for submitting healthcare provider data to the provider information directory.

The source could, in the business sense the sources could be our state licensing board or it could be an IHE or could it be a provider organization; whoever provides and act as a qualitative source. It could also be a commercial vendor or an entity. So any business entity that's deemed as a source would need to implement this IHE Actor called Provider Information Source.

In turn, the Provider Information Consumer, as the name suggests, is the consumer of the information from the Provider Information Directory. The consumer could be an EHR or it could be a software

application or it could be maybe any of those systems that needs to query and get the information from the directory. So basically it's responsible for accessing provider data from the directory.

So there's another third Actor called Provider Information Directory. As you see on the right side of the diagram, this directory maintains information through three different entities: organization, individual provider, and the relationship between organization and digital is maintained by a relationship group called Member Of. And I'll cover more details into these entities in the next slide, but basically Information Directory is responsible for managing the information on the provider.

There are two transactions that are covered in this profile. One is called Provider Information Feed, which is in IHE terms it's called ITI59 transaction, which source initiate to that Provider Information Directory. Basically source initiates this transaction and assists for submitting the provider information …directory. And this information feed has a structured message … It is a standard-based communication between the source and directory, so the request goes in a standard way and the response is just an acknowledgment saying that the feed has been received.

The acknowledgement does not cover any status, whether the feed was successfully …into the directory or whether there have been any errors while submitting. The reason is, we consider that the feed goes through a lot of backend processing, a lot of validation via management stuff, and it might take some time before you can ensure that the data has become live in the directory. So for the purpose of the transaction, we said that the response to the feed would only be an acknowledgement that the feed has been received by the directory.

The second transaction, ITI58 is Provider Information Query and this supports the ability to create Provider Information Directory for information about providers. Again, this query is very sensible. It allows the consumer to create on a bunch of parameters that can range from name, address, or it can be specialty and credentials; any information that is being maintained by a directory could be queried upon. And in return, you can ask for a set of result attributes or you can get the whole set of feed provider information from the directory. So there are a lot of configurations that you can play with in the query. So that's the advantage we got using LDAP standard, and I'll cover more of the advantages of standard in the next slide.

So the security and privacy that you see it on the …will cover some considerations around that also in one of the slides, but now I think that's pretty much the overview of the profile.

Next slide, please.

The next slide talks about the kind of entities and attributes that this HPD Profile maintains. So from the core point of core entities of the directory, there are two categories of provider that this profile maintains. One is an individual provider. We define individual provider as a person who provides healthcare services, such as physician or pharmacist of lab technician; anyone who is performing services on the patient. Organization providers are those entities that support healthcare services, such as hospitals, it could be a counseling organization, it could be an HIE, Health Information Exchanges or it could be a managed care facility or integrated delivery network. Not to just limit these qualifications, but there could be other kinds of entities that provide care to the patients.

For each entity, we mentioned a bunch of attributes on the providers that could reach from the demographics information, all their addresses, or it could be the credential and specialty as well as their electronic endpoints. As you see on the right hand side there are a list of attributes that this directory maintains.

Then we also maintain the relationship between the organization and the individual.

This is a very important aspect of this profile. As we were researching through standards, one of the major gaps we found in the existing LDAP standard or other HL7 kind of standard was that most of these standards have capability to maintain information, but in order to establish relationships between

organizations or between organization and individual, there was no clear direction. That's something we included in our profile. So far it's been pretty valuable to the community.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
I have a question. Are all of those attributes associated with every entity, whether the entity be organization or individual?

Nitin Jain – Decision Analytics – EXL
Yes, more or less. I think there is one difference, like date of birth would not be, not all attributes are listed in this chart, but there are some discreet elements, like date of birth or gender or something like that which would not be …organization, but would be to an individual. But most of them will have a lot of overlap.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Thank you.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
I have another question and it goes back probably to the previous slide, but it applies to this one as well. It is clear that the approach that IHE uses is there is not a separate directory structure for entity level versus individual level. So you're combining in a single field directory structure both individuals and the organizations and then electing them through a number of attributes. Is that correct?

Nitin Jain – Decision Analytics – EXL
Yes, that is correct. And the reason is, when you start looking at the use cases, we came across several scenarios where there was a requirement to be able to search on individual and find the relationship to the organization or even query the organization and find who are the individuals that are practicing within those organizations. So it became more like a Yellow Pages lookup kind of service, so it seemed beneficial for us to sort of maintain them in a single directory and have some way of relating them to each other.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
But you are combining the Yellow Pages concept, which is organizational level with the White Pages concept which is individual level, right? One single structure.

Nitin Jain – Decision Analytics – EXL
That is correct. Yes.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Thank you.

Nitin Jain – Decision Analytics – EXL
The next slide is just another low level view of how these entities are related to each other and what kind of hierarchy can be maintained at the organizational level. You see the commonality here depicts that you can have one too many of these different attributes, for example, name of organization can have one or more than one name versus identifier where it's an optional attribute, that is what is denoted by 02 and …and an organization can have …can have more than one identifier.

We don't qualify identifiers, the …against and through the structure. If you can define what kind of identifier it is, it could be an NPI or it could be a regional identifier or it could be a state level identifier. So we have a structure in place that lets you identify the type of identifier. And the same is the case with the credentials and the specialties. The profile does not restrict any type of the value set for these different attributes. We left it open for the implementers or the governing body to define those value sets for these credentials and specialties.

Then for addresses, I want to say as we come across the use cases, there are different kinds of addresses that can be maintained for an organization. For example, where are the services performed versus the billing information, where the payments are being made or something like a mailing address where the mail or the medical records are being dispatched or received. So we needed to categorize addresses in different kinds, so we have three different kinds of addresses maintained in this directory.

Then through the Member Of relationship, which you see on the right hand side, the Relationship Group, we were able to create a hierarchical structure within the organization. So, for example, you have something like a hospital which has some outpatient facilities. So you could make different entries for those outpatient facilities or inpatient facility, and then you can probably …to the …hospital through this Member Of group, you could maintain that structure. Or it could be something like an IHE, IHE have a bunch of members, like it could be an IDN or it could be individual hospitals that could be maintained through this Member Of relationship.

As you see, the individual provider is also hanging off the Relationship Group. So that bills the loop with the organizations how a particular individual is …to that organization.

We have validated most of this structure to our use case and our proof of concept, and so far it's been working out good. Like …SSA demonstrated how an individual provider can be tracked all the way to an IHE where the IHE had IDN and IDN has a bunch of hospitals, and then a hospital has a bunch of facilities. So we were able to go through a multiple level of hierarchy.

Next slide, please.

I think this Individual Provider View is very much similar to what we saw in the organizational chart, so I won't go into detail on this. It's just a depiction that the individual provider could have different attributes of information.

I'll go to the next chart, which is the Standards Adopted in HPD Profile. I want to give some background. As we were developing the profile, we looked through several standards and as the committee composed of a variety of subject matter experts from different standard bodies, like HL7 and really have …from I think X12 also, so we started looking into a variety of standards and there was an analysis that we did both from the technical perspective and the business perspective, what would make sense to …these different requirements into a standardized way. So we came up with these list of standards that we're proposing in this profile and would like to start with the LDAP standard first.

As you all know, LDAP is an open standard built on X-500 framework and its primarily used at various organizations to maintain personal information. So that was one of the primary reasons to chose LDAP. When we started looking into LDAP, we found several gaps that LDAP, current objects don't necessarily fit all of the requirements of the health industry. So we came across another extension to LDAP, which is an ISO, TC-215 or ISO/TS 21091, which is a specification from ISO that defines some of the attributes of the healthcare professional or the native LDAP object. So that work was very helpful to IHE and we were able to leverage a lot of that work into our HPD Profile.

But again, the ISO work, we saw some gaps there, so we extended some of the ISO objects to accommodate some of the requirements, …relationship and other attributes.

We also adopted DSML-v2. As the name suggests, it's a directory service market language. It's an XML representation of LDAP messages. So the reason we chose XML-based standard, basically to be able to wrap LDAP and make it more interoperable. So if you have like a similar formatted message, you could basically transport it over a variety of protocols via http GAMS or Web services kind of standards.

So SOAP 1.2 …a lot of IHE specification, followed SOAP 1.2 protocol. We inherited that standard for the specification. We leveraged some of the org that was already being done by IHE. The Personal White Pages, basically more around name structure, the language structure, so most of the structure of these attributes is being driven from PWP.

Next slide, please.

This slide basically talks about, as I talked in my previously slide, Why LDAP?

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
May I ask one question? The feed, is that a SOAP transport for the feed? What do you use SOAP for?

Nitin Jain – Decision Analytics – EXL
At this point we use the DSML v2 to be wrapped into SOAP kind of message. So we use that for both feed and CRE purposes. There has been some feedback from Connectathon and our internal implementation maybe Web service could have limitation, a SOAP Web service could have limitation for the fee transaction because of the size of the feed. But maybe for the query purposes we found it pretty useful to be able to handle a heavy volume of query transactions.

But I want to make a point here that SOAP is one way of communicating between services, but I know there are other standards like ….services are being considered for other projects, so basically once we have DSML v2 methods, that can be transported over Web services also.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Thank you.

Nitin Jain – Decision Analytics – EXL
Okay, so the next slide, Why LDAP? So one major point why we chose LDAP or the standard was LDAP, as you know, is very widely adopted standard for maintaining personnel information. And the technology has been proven it can handle a high volume of directory lookups. So from the structure point of view, we thought this is something which could be leveraged. And we could imagine that directory would be supporting heavy traffic and that could be a very viable option for this profile.

Again, the other major criteria to choose LDAP was it's been extensively implemented and there are many products and open source solutions designed for LDAP. So the use of LDAP tools would simplify application implementation and integration. One of the major challenges that we often come across as standard, the standards are good, but when you go about implementing them, there are not enough tools, which adds to complexity and the burden on implementers. So that was one of the main business drivers that we chose LDAP over the standard.

Then the fourth, I already covered the third point, the fourth point, which is more on federation, we also envision these directories might not be a centralized directory model. Most likely it will be a federated model and with LDAP that federation is supported by LDAP technology. So we believe in the future when the federation directories is very much needed, that this LDAP standard could be leveraged for that purpose also.

Next slide, please.

Why DSML v2? Again, DSML v2 is an open standard. It's been developed by OASIS. One point, we wanted to transform the native LDAP into XML format to allow for greater interoperability. And not just with the LDAP directory, but with other non-LDAP directories. So if you have standardized interface in XML format, that basically allows for greater interoperability among different directory services.

The other advantage of using XML messages are that these messages allow for interoperability with different vendors. Even with the LDAP, we saw there are several implementations from different vendors. Like Microsoft had its own, IBM had its own and there are some open source implementation which has some variation to LDAP. And by transforming native LDAP into XML, that allows for a vendor agnostic kind of interoperability and the messaging between directories.

When you have these XML-based messages, these are easier to transport over a variety of protocols including http and JMS and so forth. But we don't want to restrict just to these protocols. Perhaps there might be other protocols that can be used for transporting DSML messages.

Next slide, please.

Basically, we wanted to also convey the message, our profile is more around the standardized interface and how would you maintain the content and the structure of directory in the standardized manner. The security and privacy considerations are more like underlying features, and those can be basically leveraged from the existing work that has been done within ONC or IHE with the different profiles. So basically, we did some review of what those security and privacy concerns would be related to directories and what are the accommodations. So basically we want to say the major considerations was what are those policies and procedures to validate provider information before it gets stored into the directory.

As I was saying earlier, the source can furnish the information, but there's a backend process to validate the information. Is it coming from the …source? How do you manage the data if there's a conflict? How do you merge the providers? So, that little guidance in terms of data management needs to be created or developed by the commanding body.

And we recommend maintaining an audit trail for the provider information submission, just for the reason that we only allow authoritative sources to publish the information. So far, …purposes you would want to know who is feeding what kind of information.

The last standard natively supports role based access control mechanisms, so you could authenticate your data sources. But you could also wrap the directory with other security mechanisms like …and …, which are being adopted at the national level to do your role based access.

One major point I want to say on the next bullet, which is the provider information in HPD is deemed public, so any of the attributes that are currently published in this profile, we at IT, consider those as public information. So if for some reason any governing body of the directory determine that this information needs to be sensitized or needs to be controlled, then basically you could apply role based access towards those flows also.

The content structure can also be extended. If you have desire to include some sensitive information, let's say social security numbers or maybe their account number, financial information, those can be included into the directory as well through the LDAP extension feature. And again, those can be controlled by RBAC policies. Again, we assume that a lot of the infrastructure, network and operational security and management that will be undertaken by anyone who is hosting these directories. So there's nothing major that we considered, but there's a great desire for the privacy policies that we believe a …committee would already be looking to be able to handle what would happen in the case the information gets into the wrong hands and some fraud and abuse happen because information was shared with …users.

With that, I think we toured most of our profile and the background, so we are open for Q&A. I don't know the protocol here. If you want to take Q&A now or want to defer it to the end of the call.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
I think we have time for a few questions.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
One question on the security and privacy considerations. With respect to the security credentials of providers, for example, NTP level security certificates or invisible level security certificates, how would they be included in any Provider Directory in the ….? Is it only the public…that is exposed or available publicly? How do you see that being played out?

Nitin Jain – Decision Analytics – EXL

I think we basically considered maintaining public keys for the certificate that can be retrieved and then we use for the cross validation of the private keys. There are three kinds of certificates that we maintain in the directory. I don't have those on top of my head right now, but as I remember, most of the public keys were maintained for those three kinds of certificates. One was the validation for signature, one was for the validation of message encryption. The third one I'm forgetting.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Authentication.

John Moehrke – Interoperability & Security, GE – Principal Engineer
…clarify. The LDAP would only hold X509 certificates, so it would only be the public feed. The differentiation is that there is in the LDAP tree a differentiation between an S mining certificate so you know exactly how to find the S mine certificate because it has its own attribute or a signature certificate. So it's just simply there is already a differentiation so that it's very easy and quick to say for this particular entity, what is their best mine certificate to support the direct project. But it's always just the X509 public certificate.

Nitin Jain – Decision Analytics – EXL
Thank you, John.

John Moehrke – Interoperability & Security, GE – Principal Engineer
The other thing I would like to ask about is, there's some confusion regarding the LDAP versus the DSML form that you have. I believe during the meeting as we were finding that really the LDAP directory mechanism is the right directory mechanism, but the protocol for query is not very Internet friendly and that's why we added, we didn't take away, but we added the DSML queries, correct?

Nitin Jain – Decision Analytics – EXL
Yes.

John Moehrke – Interoperability & Security, GE – Principal Engineer
So if you have a system and your system can, policy-wise, handle being queried to LDAP, it still is useful.

Nitin Jain – Decision Analytics – EXL
Right.

Shanks Kande – Social Security Administration – IT Specialist
And I think, John, one major point there was if it's in client reprise, I think that should be okay. Then we go to the inter enterprise for queries, we came across vendor issues with different technologies and that's what we experienced even internally when we were looking at different technologies like IBM Tivoli versus open source solution, we came across situations where those X500 messages are not fully, or 100% compatible with …technologies. So, that DSML confirmation helped us in building that standardized interface, that directory interface. So behind the scene you could have your own implementation, but as the front face, if you have that assembled base interface that allows for interoperability kind of aspect.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
So what you're' saying, I think, but just to make sure, all Internet access to it, external, in other words, Internet access is DSML, you could still within your organization query it with LDAP?

Shanks Kande – Social Security Administration – IT Specialist
Yes. That's one way, yes.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
So nobody querying it from outside would have to guess which query interface you used?

Nitin Jain – Decision Analytics – EXL

Correct.

John Moehrke – Interoperability & Security, GE – Principal Engineer
But any of your general IT will continue to work, so that's one of the big advantages of us using general IT standards and specializing them only where necessary.

I think there was another question that I had earlier regarding how IT treated organizational identities versus individual identities.

Shanks Kande – Social Security Administration – IT Specialist
So the one differentiation was I think organizational entities were someone that provide care. Not more like administrative body. That any organization that maintains the clinical information on the consumer or the patient versus individual as a person that provides care.

John Moehrke – Interoperability & Security, GE – Principal Engineer
The question I had is with the IT approach, you can just publish organizational, so Yellow Pages functionality or can include both or you can do just the White Pages functionality. We tend to get too wrapped around White Pages versus Yellow Pages, which is a very old concept. But conceptually, there is no melding of the two, so to speak, that is mandated.

Shanks Kande – Social Security Administration – IT Specialist
That is correct. We don't mandate, like you said, it could be either/or, it would be both.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Could it also be a view of the same thing? Are the data structure sets that if you wanted to publish an entity view of your consolidated directory, you could do that?

Shanks Kande – Social Security Administration – IT Specialist
Consolidated view meaning?

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
So that externally you would only see the entity levels; you wouldn't see individual levels, let's say, for example.

Nitin Jain – Decision Analytics – EXL
To restrict the inquiry to just ask for entity level entries as part of the query that is coming into …restrict. Just give me all the organizational entities in your directory.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Yes.

Shanks Kande – Social Security Administration – IT Specialist
I mean, if you have policy around that, you want to restrict and do just to be queried upon, I think you perhaps could do that.

Nitin Jain – Decision Analytics – EXL
Yes, it could be done.

Shanks Kande – Social Security Administration – IT Specialist
The technology does not pose any limitation to that.

John Moehrke – Interoperability & Security, GE – Principal Engineer
And the nice part there, Dixie, is that that's built into the base LDAP standard, so it's not something we have to add on to it. This is a way to use that technology, but it's built in there already.

Nitin Jain – Decision Analytics – EXL

The information on individual and organizational may be in different objects, so it's not like a mesh up of the information in one …entity.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Well I want to thank you guys. This is has been really, really beneficial. Right on target with what we're trying to do.

Walter, if you're still on the line, do you want to introduce our next speakers?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Sure. I did have another question before we leave this topic. Two quick questions. One is on the entity origin of the Provider Directory. The organization types include, seems to be that it includes also business entities, as it says in the slide that describes the types of entities. So to what extent is the expectation that the entity type would be much more encompassing of not just healthcare provider entities – hospitals, clinics, labs – but also other healthcare type entities, for example, public health, health plans? And even business entities beyond healthcare organizations, like an entity that are business associates of providers that are not healthcare …providers or healthcare organizations? Can you talk about the extent to which entities can be included in this directory?

Nitin Jain – Decision Analytics – EXL
From the standard perspective, I don't believe we have a limitation to what type of entities you would want to define, but one of the aspects when we're looking from the entity …straight perspective, we capture some attributes as you see on this profile, which are more like their demographics, contact information, financials. But let's say if you have more like an …body where you want to maintain information on their administrative contact information, which might have one or two extra attributes, maybe you could include that, but then you would have to extend the schema to commit those particular attributes.

For example, in SSA's case, they were looking to include other entities like schools or maybe transportation entities that provide care services or moving the patients from one place to another place. I think those can be accommodated. You just need to have a business use case whenever you are hosting the directory, what kinds of entities you would want to maintain the information on. So it all depends on your business use case. So from the provider perspective, we don't have a sort of limitation here, but definitely public health agencies could very well be part of it.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Thank you. The last question I have is about conceptually when we say it's Provider Directory and the directory itself and we talked about entities internally being able to use LDAP to query the directory and then externally people using the DSML and things like that, but when you think about the directory itself, are you conceptually looking at the …that will establish and maintain this directory are entities like providers themselves and other …imitations? Or do you see the directory also being able to be established and maintained by, for example, an HI organization within an HIE or some other levels of aggregation as a provider directory. Do you see any specific approach to doing this from the IHE profile or is the IHE profile completely agnostic about—

Nitin Jain – Decision Analytics – EXL
From a profile perspective we are agnostic to that, but we did some, while we were doing specifications before we even got into IHE, we were doing surveys and talking to several federal agencies and state level agencies towards the deployment model would be. And believe me, there's no clear set answer to it. It may very well be at a national level directory, which, again, could have ….data sources where the data would come from, something like maybe CMS, NPI database. Or it could be like some provider that information. So it could be feeding that could come from another source, just to give you an example here. Or it could be still HIE, I think SSA works with four different HIE's now and there has been some interest from the HIE perspective to set up their drug fee. At that level they would want to consider providers to be able to feed information directly into their drug fee. So that basically is in their burden of collecting information from providers or it could be a commercial vendor where we have come across a couple of vendors who would like to capture information now that they have a relationship with the payer,

they like to capture information. It's a very heterogeneous mixture, how would these …be maintained. But I think there's got to be some guidance, I believe, how these …would … What do you deem as a qualitative source?

John Moehrke – Interoperability & Security, GE – Principal Engineer
That's a governance…

Nitin Jain – Decision Analytics – EXL
Yes, that's a governance issue. It has to evolve. Even at HIMSS, a lot of folks came to us and that was the point, number one question they were asked: how do you get the data? How would you maintain the information? And it's been a bigger challenge than creating a standard here.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
I know that SSA is doing a proof of concept right now. Do you know organizations who have actually implemented this profile?

Shanks Kande – Social Security Administration – IT Specialist
In production?

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Yes.

Shanks Kande – Social Security Administration – IT Specialist
I don't think anybody has implemented this in production.

Nitin Jain – Decision Analytics – EXL
So there are a couple of reasons. The profile is still in the trial implementation state. It has gone through the first implementation last December, but there are some vendors who implemented and who came to IT Connectathon, like Siemens, Epic, Janus Cisco and Megacity. I think there are a couple other who showed up at HIMSS. So there has been some interest from the vendor community to implement it. But how that goes into production or the cost product I think would be determined later.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
How long does it stay in the trial use stage?

Nitin Jain – Decision Analytics – EXL
Let's ask John about that. I want to say it's when they start building these query transactions into the system, we can go into the next phase.

Shanks Kande – Social Security Administration – IT Specialist
We asked Karen …and she said there's no sort of rule for that. It all depends on the adoption from the industry. Some profiles have been in trial implementation for five years and still they have been out of adoption. Some profiles went to more stable state after the first year. It depends on what gaps do we determine during these implementations and what sort of the adoption rate from the vendor community.

John Moehrke – Interoperability & Security, GE – Principal Engineer
IT has a very specific set of criteria that a supplement has to go through before it can be considered final. It includes things like have there been three independent implementations that have been brought to and tested at and acted upon. What is the number of change proposals and bug fixes in the documentation? So there's a bunch of different rules and this one came really close to being accepted last month when we did the valuation, but it was looked at as needing to potentially see a little bit more maturity. So it is in the trial implementation, which is the status in IT that says we think this is exactly what we're going to go final with, but it is not final, so it probably will go next year.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO

Thank you very, very much. This was extremely helpful and it was very important to listen about this particular project, this activity that's been from Social Security and the approach that IT is taking with the profile. So thank you again for that.

The next presentation is going to be coming from the SEO Charter Organization, which includes several SEO's, several standard development …including X12, HL7 and HPD and others. And I believe we have a set of slides that have been loaded up now on the screen so they are coming up and I'm going to turn it to Don Bechtel, and I believe Gayle Coker is also perhaps on the line and she might be available as well, too, to answer some questions. Don, why don't you take it over.

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
Thank you, Walter and Dixie, for allowing us to present today.

Just a quick small correction to what you said in my introduction. I am not speaking for the SEO today. I'm speaking for ASC X12. I also work with Siemens Medical Solutions. So if we could go to the next slide.

As a little background, the X12 transactions, X12 as a standards body was created in 1979 by the ANSI organization and we were specifically created to develop standards for electronic commerce. ASC X12 is used in multiple industries, from finance, government, transportation, supply chain and insurance, and several others.

On the insurance side, the transactions that we've developed address several lines of business, primarily from property and casualty and from healthcare. When we look at the healthcare transactions that are being developed at X12, these are typically the ones you see associated with the HIPAA administrative simplification transactions, but there are also other healthcare transactions we have created and maintain that haven't been adopted by HIPAA, and one of those would be the ASC X12 274 transaction, which is for Provider Directories.

Our standards are also available on XML schema for those that want to use XML. We provide that as an additional source. And X12 is a member of the SCO or the Standards Charter Organization, which I will talk about at the end of this presentation when I make that notation here.

Next slide.

So we took the approach of answering the questions that were provided to us and so taking them one at a time in the next few slides, we'll try to provide some insight as to what X12 brings to the table. So in terms of capabilities, X12's standard, the 275 Provider Directory has several Implementation Specifications that can be used for this purpose. One of which is found in the 4050 conversion. Its designation is X185 is an inquiry and response transaction for Provider Directory. It's set up primarily for providers to make inquiries of payers, but there are implementations of this where consumers through Web services can also make inquiries to a payer/provider directory. And the type of information that they would request would be providers from a specific geography, providers specific to a network, a payer network. In this case, meaning providers that are part of a Blue Cross plan or an Aetna plan or United Health Services, etc. And then also, by specific specialties.

Responses to the inquiry are a list of providers or a provider that would be qualified by the request transaction and would provide information about the areas just described. And the transaction that we're currently describing, being version 4050, could be migrated to version 5010 to be consistent with some of the other transactions the industry is migrating to now. But there's no real requirement for us to be in synch with HIPAA, since this is not a HIPAA standard, but for consistency it might be useful.

If additional business requirements were identified through this committee or some other committee, the ASC X12 organization would be able to address those requirements through the development work that we do as a standards developer. There are two ways that might be done. One, either to the implementation specification or to the base standard. The base standard would need to change when

something specific to the content isn't present in the standard today. That would necessitate us making a base standard change. But if the data elements are there and we're just looking for values that need to be exchanged, that's something we could address in an implementation guide.

I also listed here the 5010 207, which is a Provider Directory rather than an inquiry response and I probably should have made a change to the 4050 X109 and I apologize for that. The 5010 207 is in development work, but the point is still the same. The Implementation Guide for 5010 hasn't yet been developed and what we have in 4050 is a work in transaction. It's been available to the industry for several years and it has been implemented, at least in one organization I was able to verify before this call. I can talk about that if you have any questions on this.

There are plans to bring this transaction forward in a newer version. It might be 5010 to, again, be consistent or we might go to the next standard version that's being developed in X12. Go to the next slide.

So again, some of the capabilities, when we look at what kind of information would exist in the directory or would exist in an inquiry and response transaction, this list should give us kind of an overview, if you will, of the type of data that would be found in the directory. So we have affiliated hospitals, what group the provider is associated with, what network or health plan they're associated with. The provider might be associated to a facility or a group practice, the name of the provider or the name of the facility, identification numbers that might be required. Then direct contact information – and I bolded this one because this is where we would find information about email addresses, phone numbers and other ways of making contact with the individual provider or the organization. Demographic, language spoken and location, also their specialty, any licensing and credentials that might apply and so on. When you make an inquiry for a provider, the inquiry response for a qualified provider, based on what was asked, would include as much of that information as is relevant to the individual provider. If we could go to the next slide.

So the question is: What information do EHRs need to retrieve from a Provider Directory to enable a health information exchange? I guess there's a not a full understanding of what is being envisioned. There are different ways this might be implemented. Certainly, it could be something that would be part of an HIE where the HIE is maintaining this directory. Then the providers would need to know through their association with that HIE how to access that directory. Presumably that would be published to them in some way.

The X12 transactions, I should clarify, if it's not obvious already, is really more about the data and the payload and not so much about how we're making a connection or the exchange. The communications standards that can be applied are a variety of standards that are used today in the industry. As I listen to the IHE implementation, I think everything they described as a way of communicating and exchanging data are things that can be done here with this standard. But what we're doing with the standard is clarifying the content and the rules around how the content is formatted and collected and exchanged.

So, to make the inquiry, the provider needs to have some information about what type of provider they're looking for, the geography they're looking for, the specialty they're looking for. So those would be the primary attributes of the request. The response then is, to qualify the response is to list the data I just reviewed in the last slide.

More importantly, the point I think X12 wanted to raise here is that we were becoming concerned that this directory would focus primarily on how I contact another provider or how I make an exchange to another provider of some set of data. Although that's certainly a needed use case, we also think the Provider Directory needs to provide further services that are useful to both the provider and the consumer, in that the consumer wants to select a provider that is in their geography or is for the specialty they're looking for or that they may have characteristics that are important to them, such as what languages might they speak or what hospital are they affiliated with. So we feel this information is also important to the exchange when trying to find a particular provider in addition how I contact that provider to make the exchange.

Next slide, please.

What technical standards or content exist today that we would recommend? We are recommending that for the payload and for establishing the content of a directory, the X12 transactions can be used for this purpose. The inquiry response transaction is, as it implies, how you would conduct a request and get a response, but the Provider Directory transaction would allow us to populate the directory with information. So that exchange of data might come from, most likely in our environment, come from a health plan. So a health plan could populate the directory with information of providers that are either under contract with them or that they consider in network for their services.

This could be used for other entities as well to populate a directory. It doesn't have to be restricted to the health plans, but these would be the ones that our transaction was primarily targeting to.

I also called out that in terms of specialties, the specialties are identified through the Provider Taxonomy Code Set, which is maintained by the AMA. If we go to the next slide.

This is just a description of the two transactions that we've been talking about: the Provider Directory and the Provider Inquiry. I just took this out of the purpose and scope of the transaction from our Implementation Guides. We don't really need to cover that. It kind of covers the points, so you can go to the next slide.

So in terms of what kind of gaps do we see on these transactions? I think the one gap that we noticed based on some of the information we were seeing exchanged in this dialogue is that the provider types might be expanded beyond the scope of what X12 had originally included as a provider. In particular, we note that the public health agencies would not be within our scope of a provider. That doesn't mean we couldn't add it and that would be a fairly simple change for us, but that would be a gap of the standard today, or the implementation specification would not accommodate. But if we were to make the adjustments or bring forward the 5010 version, this is the kind of change we would want to identify and include in the 5010 version so that we're not leaving any stakeholders or entities that need to participate in this exchange out of the use of this transaction.

We may also have a gap in the communication channels that might need to be identified by a provider so that another provider can communicate with them. But our current implementation would address things like an email address or a telephone or a fax number along with an individual contact. There are other values that we can add to this without having to make a standard change. So we would need to know exactly what kind of address, electronic address would be needed so we can ensure that we could add that. But this is probably something we could add without having to go back and revise the standard, the base standard.

Next slide, please.

The question was: What certification criteria would we suggest? I guess the answer to this is, from our perspective, the way X12 standards are verified or validated today is through the use of commercial products. We don't have a tool within X12 that does this, but commercial products are readily available that do validation to ensure that the transaction was correctly formed in structure, that the content of the transaction is correct for the standard. So those are very basic, physical validations and conformities that are verified.

Many of the translators and validation software that's on the market today also can go a little deeper. These are easily identified by those that can support what's called the 999 acknowledgement transaction, which is a transaction that would return to a submitter information about accepting, acknowledging the receipt of a transaction or acknowledging that the transaction was not received because there were some errors in the transaction, which could be going to the structure or the content of the data element being inappropriate for the data element as described in the standard. But this 999 goes a little deeper and also allows for editing against the implementation guide specifications and can do verification against the

actual code set values and can also do some contextual validation to ensure that the values that are there are correct based on the context of other data values.

Again, it would make verification or validation conformity checks to the implementation specification as well as to the standard. So these are also on the market today and could easily be incorporated as part of the toolkit that a certification entity might want to utilize to verify that the transaction coming out of the standard are complying with those implementation specifications.

Next slide, please.

What standards are needed to define the structure and content of the Provider Directory? These were described in some of my earlier slides, but basically a content of the Provider Directory is specified in the 4050 X109 implementation specification, and if we developed a 5010, it would be the X207. This would give a full set of information or a full set of content that would be needed to populate a transaction. It would also be the transaction that one would use to perform that, the loading and maintenance of a Provider Directory, wherever it might be maintained.

In terms of the structure of the data and the database of the repository were maintained in an HEI or some other entity level Provider Directory . X12 doesn't specify the structure as much as it's specifying the content. There are some guidance that one might get from the implementation specification where we know that certain data elements need to be held together in association with each other. Those would be things that we would call data segments or data loops, where it's a collection of different data segments together making some unique form of information. So that could be useful in determining a structure, but it would not be something that is required.

Next slide, please.

Th question we're answering is: What standards are needed to support the submission of a directory content at an entry level and I think that's really what I just spoke to. The 4050 X109 or the 5010. The 4050 X109 transaction is available today and is, as I said earlier, is being used today by one fairly large clearing house. What that clearing house is doing is building, they host a provider directory and then allow providers to inquire against it to find other providers they may want ot make referrals to. This would be a typical use case, where the results of that inquiry would then help inform a 278 transaction within X12 which is used to make an authorization for a referral or to request a referral to another provider. So this is a transaction that can be used in conjunction with other transaction processing that's done today in our industry and is being utilized.

Next slide, please.

A few other points that we wanted to talk about, the Provider Directory needs to provide more than just the address of the providers, which is kind of the key point we wanted to make today. We feel, as I said already, that the information you need to receive should provide more than just that address so that it can be more useful to the provider and to the consumer.

And in today's healthcare system, as you know, if one goes to the wrong provider or to a provider that's out of network, that can result in higher costs to the consumer or patients for taking services from a provider who's out of network. Keeping this relationship in mind, these queries we believe is an important factor.

As I said, we're not completely sure we understand all the requirements of this use case, but we tried to illustrate how this transaction could accommodate what we believe is being looked for.

Next slide.

What are we doing today in terms of the provider directories? ASC X12 does have an active work group that supports the Provider Directory transaction. We meet each trimester and that work group is active at

each work group and is ready to take new requirements and to bring forward this transaction to a newer version if we had newer requirements that we needed to promote.

We're also, as I said earlier in the presentation, a member of the SCO, which we are planning to have a meeting later this month on the 21st of April. Part of that meeting will be to discuss a joint effort that the SCO has been working on for a while now that would be between several of the SCO's that participate at this go. The intent is for HL7 and possibly IHE, NCPDP and GS1 all who have some form of a provider directory and a transaction to support it collaborating to develop a common, harmonized set of information that would satisfy all our needs. And to further scope out the project, which we're hoping will be informed by Walter, Walter Suarez, who has been invited to attend this meeting and provide us some information on the work that you're doing and perhaps identify some requirements that you may have that this collective group could work on together.

I think that's my last slide and that would be my last remark, so I can take questions if you have any.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Don, I really appreciate this. This is a very useful presentation. So based on what you've talked about, especially on this last slide, you would see this national entity level provider directory or this national provider directory as serving both clinical and administrative purposes?

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
Yes, but I wouldn't call it a national, I hope I didn't overstate something.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Actually, I should clarify. That's what the Policy Committee called it and what this workgroup has, this group, one of the standards areas we have been asked to address is what standards are needed to support the submission of directory content a national entity level provider directory. So the Policy Committee has come up with a concept of having a national ELPD and that's where I got that term, not from your presentation.

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
Thank you. I think this transaction can still fulfill that purpose. I just was concerned that I had said something I didn't mean to. But thank you for your clarification.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
So you would see it serving both use cases?

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
Yes, I do. I believe it could fulfill that purpose, yes. Again, this standard is more payload oriented and not so much on how the communications are done, which I mentioned, but yes, absolutely I believe this could be used for that purpose. And in the clearing house example that I mentioned, that's a small microcosm of what you're trying to do at a national level, because I believe it does encompass multiple plans.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
So within your arena, we've talked about obviously different providers work out of different hospitals and you brought up the fact that a provider may be a member of different health plans network of providers. Is that, in your experience, is that generally the same set? If a provider works at City Hospital, is City Hospital likely to be in the same network that the provider's in?

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
Generally, yes, but in those large metropolitan areas there are lots of hospital facilities that may be close to the doctor, the doctor doesn't necessarily work in all of them or doesn't have privileges in all of them. So it would be important to identify where they do have privileges as that may be of interest to the provider that's making a referral or to the consumer who's trying to select a provider to provide specialty services for them.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
But you would have to maintain two different linkages for a particular physician, but the linkages at where he or she has hospitals, the hospitals where they have privileges and the health plans that they're members of.

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
I would expect that what would be in the directory is how to communicate with the physician at his practice, not necessarily at the facility. And if his practice is within the facility, then yes, that address would be there. And if the provider has practices, meaning he has offices in multiple hospitals, then yes, you would have to list multiple connection points or addresses, which this standard would also support. We can have more than one address location provided.

Gayle Coker – Blue Cross/Blue Shield Association
Don, this is Gayle. Would it be okay if I added a comment to that?

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
Please do.

Gayle Coker – Blue Cross/Blue Shield Association
Traditionally, and just for disclosure to the committee, I do work for Blue Cross/Blue Shield Association, even though I am here for X12. In traditional payer directories where we make available provider information for consumers, we do often provide that this provider has privileges or an affiliation with a particular hospital. And oftentimes what you find if you have a group of providers, if there's there doctors and three hospitals, each one physician may have privileges at one of the three, the entire practice is then covered across. But that way each individual practitioner is not always trying to maintain and go through the requirements to maintain full privileges at each facility. So, Dixie, I don't know if that helps get the portion that you were trying to understand between the provider and the affiliation versus whether they have a physical practice office there.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Yes, thank you.

John Moehrke – Interoperability & Security, GE – Principal Engineer
I have a question because I'm not familiar with this provider directory from X12. I think you said it supports an email address, correct?

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
Yes, that's right.

John Moehrke – Interoperability & Security, GE – Principal Engineer
So I'm thinking about the direct…use case. Are off the shelf email clients capable of querying on the X12 directory? I'm not finding, is it known by some other protocol?

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
No, that's not necessarily what I was saying, although I suppose one could email a transaction.

John Moehrke – Interoperability & Security, GE – Principal Engineer
No, I mean for a provider using the Direct Project, i.e., using off the shelf secure email, I'm clear on how it could use LDAP and all those IT transactions. I'm just not sure how to find out whether email, library or email application can query in X12 directory and find an email address.

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
No, I don't think it would. I think you would have to do the query using the standard and the email client itself would not do that.

John Moehrke – Interoperability & Security, GE – Principal Engineer

Then I did not see whether current Provider Directory supports …and not digital certificate? Is that in there?

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
That's one of the ones that we weren't sure would be in there and it is certainly one we would entertain adding. The X509 is something X12 supports in other applications, so we need to look at that requirement to see if we could make that fit without having to change the base standard. But I would call that a gap at the moment, but I don't call it a significant one.

John Moehrke – Interoperability & Security, GE – Principal Engineer
Thanks.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
This may reflect my naiveté. When a provider sends an X12 transaction to a health plan, what transport do they generally use? It relates to John's question about Direct.

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
Right. Well, again, I guess it just depends on the provider and how they're structured to do these kinds of transactions. In the HIPAA realm, a lot of these transactions are sent as files or batch files and a communication link is established for that transport and when the transport is done, the link is dropped. That's one way. In large institutional hospitals, there may be a persistent connection over which these files might be transferred. And there are organizations like my own at Siemens where we provide real-time transactions for things like eligibility and referrals where the provider, through their application software, can make an eligibility request that the application basically forms the 271 and transmits it to our clearing house and then our clearing house accesses the payer. So the connectivity between that provider and our clearing house may be coming over a secured Internet connection and then at the clearing house gets redirected to the health plan over another secured circuit that's probably more persistent. So there could be different protocols used throughout this stream, but the payload remains unchanged as it goes from one point to the other until it gets to the destination.

I don't know if I'm answering your question, Dixie.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Exactly. Because it seems to me like, at least in the example you gave of a batch file, you could send a file as an attachment to an email, which would be equivalent to using Direct for these.

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
Yes, you could.

John Moehrke – Interoperability & Security, GE – Principal Engineer
I think, though, Dixie, what I was looking at is how can you use this Provider Directory to make your provider to provider address and digital certificate linkage. Not how can this replace the Direct Project in transport.

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
Yes, this does not replace the Direct Project.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
No, no, I wasn't asking that at all.

John Moehrke – Interoperability & Security, GE – Principal Engineer
Certainly, if you have a message that is in X12 format, like these eligibility checks, those can be transported by the Direct Project because the Direct Project is agnostic, the content.

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.

And that would be true for this transaction as well, John.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Are there other questions from people on the call? Well, Don, this has been most helpful to us. We certainly really appreciate it. It's right on target with what we were looking for, so I really appreciate it.

Don Bechtel – Siemens Medical – IT Architect, Standards & Regulatory Mgr.
Well thank you again for the opportunity to bring you this information. I appreciate it.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Are there any other questions or discussion points that anybody else on the call would like to bring up at this time? Okay, I think, Judy, we may be ready to open this up for public comments.

Judy Sparrow – Office of the National Coordinator – Executive Director
Yes, it sounds like it. Operator, can you check with the public and see if anybody wishes to make a comment?

Moderator
(Operator instructions)

Judy Sparrow – Office of the National Coordinator – Executive Director
Just a reminder, Dixie, April 20th is the Standards Committee and April 27th is the next workgroup call.

Dixie Baker – Science Applications Intl. Corp. – CTO, Health & Life Sciences
Thank you. Let me thank everybody for calling in today. I want to especially thank Rob Wilmont for filling in for David McCallie. We're glad to have you here today. And I'd like to thank our presenters. We really appreciate your help.

Judy Sparrow – Office of the National Coordinator – Executive Director
Thank you, Dixie. Bye.

Public Comment Received During the Meeting

1. Does X12 content in a provider directory submitted by an organization require that the organization have an OID through ANSI?

2. LDAP has two definitions, SLDAP is standalone, the other is Lightweight Directory Access Protocol to a unique X.500 which could also support the IHE scheme.